

SYSTEMS AND METHODS FOR
MONITORING CREDIT OF TRADING COUNTERPARTIES

Cross Reference to Related Application

This application claims the benefit of United States Provisional Patent Application No. 60/174/896, filed January 6, 2000, which is hereby incorporated by reference herein in its entirety.

Background of the Invention

The present invention relates to systems and methods for monitoring credit of trading counterparties. More particularly, the present invention relates to systems and methods for monitoring credit of trading counterparties that enable trading systems and credit managers to monitor credit of trading counterparties and thereby control the risk that the trading system and the trading counterparties are exposed to.

In recent years, electronic trading systems have gained wide spread acceptance for trading of a wide variety of items, such as goods, services, financial instruments, and commodities. For example, electronic trading systems have been created which facilitate the trading of financial instruments and commodities such as stocks, bonds, currency, futures, oil, gold, pork bellies, etc. As another example,

online auctions on the Internet have become popular markets for the exchange of services and both new and used goods.

Trading systems are frequently operated by individual traders in order to effect trades for legal entities with which they are employed. For example, a bank may employ various traders who participate in trading in the bond market. In trading system, both the traders and the banks may each maintain a trading account, and thus each is a counterparty in the trading systems. Similarly, a holding company may own several banks, and each bank may employ several traders. As above, the holding company may also maintain a trading account, and thus the holding company is also a counterparty in the trading system. The accounts that are held may follow the same type of structural hierarchy. For example, the holding company may have a trading account, each bank may have a sub-account of the holding company's account, and each trader may have a sub-account of their bank's account. In the context of this invention, a customer of a trading system may be any person or entity holding one or more trading accounts and may be also referred to as a counterparty. For example, the holding company may hold its own account as well as the accounts of its banks, and each bank may hold its own account as well as the accounts of its traders. Also in the context of this invention, the holding company is the parent entity of the banks and the banks are the parent entities of their traders.

Many of these electronic trading systems use a bid/offer process in which bids and offers are submitted to the systems by a passive side and then those bids and offers are hit and lifted (or taken) by an aggressive side. For example, a passive trading

00973552.001050

counterparty may submit a "bid" to buy a particular number of 30 Year U.S. Treasury bonds at a given price. In response to such a bid, an aggressive side counterparty may submit a "hit" in order to indicate a 5 willingness to sell bonds to the first counterparty at the given price. Alternatively, a passive side counterparty may submit an "offer" to sell the particular number of the bonds at the given price, and then an aggressive side counterparty may submit a 10 "lift" (or "take") in response to the offer to indicate a willingness to buy bonds from the passive side counterparty at the given price.

When trades are entered into by one counterparty submitting a bid or offer and another 15 counterparty hitting or lifting the bid or offer, respectively, a binding contract between the counterparties is entered into. Part of that contract requires that the counterparties each deliver money, goods, and/or services. For example, if a first 20 counterparty bids to buy \$100 million in 30 year U.S. Treasury bonds, and a second counterparty hits the bid, the first counterparty has to deliver \$100 million in cash and the second counterparty has to deliver the 30 year U.S. Treasury bonds within a predetermined 25 clearing time. This process is referred to as a trade clearing.

Because counterparties have the potential to lose money when trades do not clear because of subsequent changes in market conditions, counterparties 30 frequently desire to, and are frequently required by their parent entities to, limit their risk exposure. One way in which risk exposure can be limited is to place a monetary limit on the amount of trades that can be made in one day. This limit is referred to as a

credit limit. The monetary total amount of trades that may be made is referred to as the credit available to the counterparty, and the monetary total amount of trades that have been entered into so far is referred
5 to as the position of the counterparty.

Accordingly, it is an object of the present invention to provide systems and methods for monitoring credit of trading counterparties.

Summary of the Invention

10 In accordance with this and other objects of the invention, systems and methods for monitoring credit of trading counterparties are provided. More particularly, the present invention is systems and methods for monitoring credit of trading counterparties
15 that enable trading systems and credit managers to monitor credit of trading counterparties and thereby control the risk that the trading system and the trading participant are exposed to. In one aspect of the present invention, the systems and methods monitor
20 trades entered into and cleared by counterparties, track the net and gross positions of counterparties and the counterparties' parent entities, trigger warnings when counterparties or their parent entities exceed a warning limit, and shut-off counterparties' trading
25 ability when counterparties exceed a credit limit. In another aspect of the present invention, an operator of a credit system is provided with a variety of interfaces through which the operator can set up new counterparties, search a list of counterparties, view
30 and edit basic information for counterparties, view financial information for counterparties, view and edit notes regarding counterparties, view and edit limits of counterparties, view position versus limit information

09265526.2 02050

for counterparties, view the current day's position information for counterparties, and view cumulative position information for counterparties.

Brief Description of the Drawings

5 Further features of the invention, its nature and various advantages will become more apparent from the following detailed description of the invention, taken in conjunction with the accompanying drawings, in which like reference characters refer to like parts
10 throughout, and in which:

FIG. 1 is a block diagram of hardware that may be used to implement various embodiments of the present invention;

15 FIG. 2 is a flow diagram of a credit monitoring process in accordance with various embodiments of the present invention;

FIG. 3 is an illustration of a main menu that may be presented in accordance with various embodiments of the present invention; and

20 FIGS. 4-21 are illustrations of various credit processor operator interfaces that may be presented in accordance with various embodiments of the present invention.

Detailed Description of the Invention

25 The present invention is now described in connection with FIGS. 1-21. Turning first to FIG. 1, an example of hardware 100 that may be used to implement one embodiment of the present invention is shown. As illustrated, hardware 100 may include one or
30 more local workstations 102 and one or more remote workstations 104 that may be used by counterparties to view trading data and enter trading commands.

Workstations 102 and 104 may be any suitable means for presenting data and, in preferred embodiments of this invention, accepting input. For example, workstations 102 and 104 may be personal computers, laptop

5 computers, mainframe computers, dumb terminals, data displays, Internet browsers, Personal Digital Assistants (PDAs), two-way pagers, wireless terminals, portable telephones, etc., or any combination of the same.

10 To orchestrate trading between counterparties using workstations 102 and 104, the workstations preferably submit commands to, and receive data to be displayed from, a processor 106. In alternative embodiments, however, workstations may communicate with
15 additional processors, or include processors to orchestrate trading in a distributed fashion without requiring processor 106. In yet other embodiments, processor 106 may be connected to an external trading system (not shown) that controls trading by the
20 counterparties. Processor 106, and any additional processors, may be any suitable circuitry or devices capable of processing data such as microprocessors, personal computers, network servers, mainframe computers, dedicated computer systems, etc.

25 As shown, processor 106 may be connected to workstations 102 and 104 by networks 108 and 110, respectively. Each of networks 108 and 110 may be any suitable data network for communicating data between workstations 102 and 104 and processor 106, such as a
30 local area network, a wide area network, the Internet, an intranet, a wireless network, a hard wired connection, a dial-up network, etc., or any combination of the same. In an arrangement of hardware 100 without

processor 106, workstations 102 and 104 may be linked together by networks 108 and 110 directly.

Workstations 102 and 104, processor 106, and networks 108 and 110 may collectively form a trading system.

As also shown in FIG. 1, a telephone network 126 may be provided that comprises a local telephone 128 and a remote telephone 130 connected by a telephone line 132. Telephone network 126 may be used to enable a counterparty at a remote location to communicate with a broker-counterparty at a workstation 102 or 104. This may be useful when the counterparty does not have access to a workstation 102 or 104 or when the counterparty only has access to a display-only workstation 102 or 104. Obviously, telephone network 126 may be implemented as a private telephone network, a public telephone network, a wireless telephone network, or any suitable combination of the same.

When used to implement a bid/offer, hit/take trading system as described above or connect to an external bid/offer, hit/take trading system, hardware 100 may enable a counterparty to submit a bid to buy, or an offer to sell, an item at one of workstations 102 and 104. This bid or offer may then be communicated to processor 106, where the bid or offer can be ranked and stored in a bid-offer queue. The ranking may be based upon time of submission, price, or any other suitable criterion. The bid or offer may then be presented to other counterparty via other workstations 102 and 104 dependent upon its ranking in the bid-offer queue. Once displayed, the bid or offer can then be hit or taken by one or more of the other counterparty so that a trade of the item can proceed to execution.

A back office clearing system 112 and a credit processor 114 may also be connected to processor 106 of the trading system via communication links 118 and 120, respectively. Clearing system 112 may be any 5 suitable equipment, such as a computer, or combination of the same, for causing trades to be cleared and/or verifying that trades are cleared. Credit processor 114 may be any suitable equipment, such as a computer, or combination of the same, for monitoring and 10 controlling credit as described hereinbelow. Credit processor 116 may be controlled by one or more operator terminals 116 via communication link 124, and/or by workstations 102 and 104 via networks 108 and 110 and processor 106. Operator terminals 116 may be any 15 suitable circuitry or devices capable of providing a control interface for credit processor 114 such as microprocessors, personal computers, network servers, mainframe computers, dedicated computer systems, dumb terminals, computer monitor and keyboard, etc. 20 Clearing system 112 may communicate with credit processor 114 via communication link 122, and communication links 118, 120, 122, and 124 may be any suitable data network for communicating data, such as a local area network, a wide area network, the Internet, 25 an intranet, a wireless network, a hard wired connection, a dial-up network, etc., or any combination of the same.

Turning to FIG. 2, an example of a process 200 that may be executed in credit processor 114 is 30 illustrated. As shown, at steps 202 and 204, trade information may be received from processor 106 of the trading system and back office clearing system 112. The trade information from processor 106 may include the price, size, and item to be traded in connection

0971555041-010500

with trades entered into by each counterparty. The trade information from clearing system 112 may include price, size, and item that was supposed to be traded in connection with trades that cleared or failed to clear 5 for each counterparty. The trading information may be received at credit processor 114 as soon as the information is available or may be periodically received in batches.

After receiving trade information from 10 processor 106 at step 202, process 200 may calculate the long-bond-equivalent for each trade based upon the size (e.g., quantity) and type (e.g., security and maturity) of the item to be traded at step 206. The long-bond-equivalent (LBE) is a metric that is used to 15 convert that values of various types of trades to a uniform scale and is based on the value of a long bond (i.e., a 30 year U.S. Treasury Bond). Although long-bond-equivalents are used to illustrate the invention, any suitable metric may be used to implement the 20 invention. Next, at step 208, process 200 may accumulate the LBE short and long positions for each counterparty account corresponding to the received information. A long position is a position wherein a counterparty agrees to buy an item and a short position 25 is a position wherein a counterparty agrees to sell an item. Next at step 210, process 200 may accumulate the LBE short and long positions for all accounts of each parent entity having counterparties corresponding to the received information.

30 After receiving trade information from clearing system 112 at step 204, process 200 may re-calculate the long-bond-equivalent for each trade based upon the size (e.g., quantity) and type (e.g., security and maturity) of the item traded at step 212, if

necessary. Next, at step 214, process 200 may adjust the LBE short and long positions for each counterparty account corresponding to the received information, if necessary. Where a trade has cleared, for example, the
5 counterparty account may be deducted by the amount of the trade to reflect that the trade is no longer "on credit." Next at step 216, process 200 may adjust the LBE short and long positions for all accounts of each parent entity having counterparties corresponding to
10 the received information, if necessary.

Upon completing step 210 or step 216, process 200 may next determine at step 218 whether the counterparty accounts corresponding to the information have credit limits. For each account having a credit
15 limit, process 200 may next check the account position against its account limit at step 220. The account's position is preferably the value accumulated at steps 208 and 214. Next, at step 222, process 200 determines if the account's position is within the warning level
20 range for the account. The warning level range is a range in which a counterparty, credit manager, trading system administrator, or anyone or anything else may be warned that the account is approaching its limit. If the account's position is not within the warning level
25 range, then process 200 determines if the account's position is over its credit limit at step 224. If the account's position is not over its credit limit, then process 200 proceeds to step 226 to wait for more information from processor 106 or clearing system 112.
30 Otherwise, if the account position is over its credit limit, process 200 may shut off the account at step 228. Finally, after shutting off the account at step 228, or if the account is determined to be within the warning level range at step 222, process 200 may send a

09047655 DRAFT

message, at step 230, to one or more pagers of designated persons with information relating to the account, such as account number, position, and limit, and then wait for more trade information at step 226.

- 5 If process 200 determines at step 218 that the account does not have a credit limit, however, then process 200 proceeds to step 232 where it determines whether the parent entity having the counterparty corresponding to the account has a credit limit. This
10 limit would encompass an account limit for the account if one existed. If process 200 determines at step 232 that the parent entity does not have a credit limit, then process 200 may shut off the parent entity and all of its counterparties by disabling their trading
15 accounts at step 234. After shutting off these accounts at step 234, process 200 may send a message, at step 230, to one or more pagers of designated persons with information relating to the accounts, such as account numbers, positions, and limits, and then
20 wait for more trade information at step 226.

If process 200 determines at step 232 that the parent entity does have a credit limit, however, process 200 may then check the parent entity's position against its credit limit at step 236. The parent
25 entity's position is preferably the value accumulated at steps 210 and 216. Next, at step 238, process 200 may determine whether the parent entity's position is within the warning level range for that entity. If the parent entity's position is within the warning level
30 range, then process 200 may send a message, at step 240, to one or more pagers of designated persons with information relating to the parent entity, such as counterparty number, position, and limit, and then wait for more trade information at step 226.

If process 200 determines at step 238 that the parent entity's position is not within the warning level range, then process 200 may determine at step 242 whether the parent entity's position is over the parent entity's credit limit. If the parent entity's position is over its credit limit, then process 200 may shut off the parent entity and all of its counterparties by disabling their trading accounts at step 234 and send a message to one or more pagers of designated persons with information relating to the accounts, such as account numbers, positions, and limits, at step 230. After sending a message at step 230, or if process 200 determines at step 242 that the parent entity's position is not over its credit limit, process 200 may wait for more trade information at step 226.

Turning to FIGS. 3-21, examples of user interfaces that may be presented to an operator of credit processor 114 via operator terminal 116 and/or workstations 102 and/or 104 are illustrated. As shown in FIG. 3, a main menu 300 is illustrated. Main menu 300 is illustrated with icons 301-311 which are supplemented by text, although main menu may be implemented in any suitable manner. Main menu 300 allows an operator to enter information for a new counterparty, search a list of counterparties, view and edit basic information for counterparties, view and edit financial information for counterparties, view and edit notes regarding to counterparties, view and edit a limits of counterparties, view position versus limit information for counterparties, view the current day's position information for counterparties, and view cumulative position information for counterparties by selecting icons 301, 302, 303, 304, 306, 307, 308, 309, and 310, respectively. Although the interfaces that

00000000000000000000000000000000

are described below in connection with selecting these icons are explained as being presented to operators, certain of these interfaces may also be presented to counterparties under appropriate circumstances.

5 As mentioned above, by selecting icon 301 from menu 300, an operator can enter information for a new counterparty. As used herein, the term counterparty may be used to define any holder of a trading account irrespective of whether that account
10 has sub-accounts or is a sub-account of another account. Turning to FIG. 4, an interface 400 that may be used to edit basic information for a counterparty is illustrated. As shown, interface 400 includes information areas 402, 404, 406, 408, and 410, and
15 buttons 412, 414, 416, 418, and 420.

Within basic information area 402, an operator may view a counterparty identification number 422 (which is preferably selected by credit processor 112), view and select a credit status 424 (which may
20 include frozen, active, closed, open and pending), view and enter a counter party name 426, view and enter a short name 428, view and enter a date that the counterparty was formed 430, view and select a country code for the counterparty 432, view and enter a tax
25 identification number 434 for the counterparty, view and enter the number of branches 436 operated by the counterparty, view and select whether the counterparty is a parent entity or not 438, view and edit whether the counterparty has a parent entity 440 and, if so,
30 view and select the name of the parent entity 442, and view the last date the information for the counterparty was modified 444 and the name of the operator that last modified the information 446.

If a parent entity is selected in box 440 and identified in field 442, information for that parent entity may appear in parent information area 406. As shown, this information may include an identification 5 number 448, an entity classification 450, a name 452, a state 454, a country 456, and a geographical region 458.

In order to enter contact information like that displayed in contact information area 404 of 10 interface 400, an operator may click on contact button 414. Upon clicking on button 414, an interface 500 as illustrated in FIG. 5 may be presented. As shown, the operator may view and edit the contact's first name, middle initial, last name, gender, department, title, 15 telephone number, and position in fields 502, 504, 506, 508, 510, 512, 514, and 516, respectively. The operator may also view the identification number 518 for the contact, which is preferably assigned by the credit processor, the name 520 of the operator that 20 last modified the information for the contract, and the date and time 522 that the information for the contact was last modified. The operator may save the information for a contact by clicking save button 524. The operator may also disassociate a contact with a 25 counterparty and delete the contact by pressing delete button 526. Finally, when an operator is done using interface 400, the operator may close the interface by clicking on close button 528.

Although not illustrated in a figure, an 30 operator may use a similar interface to interface 500 to enter and edit the address information that is displayed in address information area 408 for a counterparty by initially clicking on address button 416 in interface 400.

In order to enter and edit the description information that is displayed in description information area 410, an operator may click on descriptor button 418. Upon clicking on this button,

5 the operator may be presented with an interface 600 as illustrated in FIG. 6. Within area 602 of interface 600, the operator may then select a descriptor type 604 that the operator wants to identify by clicking on the descriptor type. As shown, descriptor types may

10 include classification, trading philosophy, structure of firm, main product, and membership. Once the operator has selected the descriptor type 604, a menu 606 of descriptors for that descriptor type may then be presented. For example, if the operator selects the

15 membership descriptor type, menu 606 may include descriptors: NASD, MSRV, NYSE, ASE, CBOT, CME, AMEX, and LIFFE. If the operator selects the classification descriptor type, menu 606 may include descriptors: dealer, muni-dealer, broker-dealer, and customer. If

20 the operator selects the trading philosophy descriptor type, menu 606 may include descriptors hedge fund and commercial bank. If the operator selects the structure-of-firm descriptor type, menu 606 may include descriptors: corporation, general partnership,

25 chapter-S corporation, and limited liability partnership. If the operator selects the main product descriptor type, menu 606 may include descriptors: bonds, FX, IRO/IRS, and Repos. Obviously, certain descriptor types (which may be indicated by special

30 coloring or in any other suitable manner), such as membership, may permit multiple descriptors to be selected, and others may only permit one descriptor to be selected. Multiple descriptor types may be defined for each counterparty.

- When descriptor(s) 606 are selected for a descriptor type 604, the selections may then be displayed in a list of current descriptors area 608. In order to enable an operator to change the list of 5 current descriptors, the operator may highlight a descriptor type and descriptor in list 608, and click remove button 610 or clear button 612. Remove button 610 preferably removes the descriptor type and descriptor from the list entirely, and clear button 612 10 preferably allows the operator to reenter the selections in area 602. Once the operator is done with interface 600, the operator may click on save button 614 to save the selections and/or close button 616 to close interface 600.
- 15 After an operator has completed using interface 400, the operator may click on save button 412 to save the selections and/or close button 420 to close interface 400.

In order to search for and view counterparty 20 information that has already been entered, an operator may click on search list icon 302 in main menu 300. After clicking on icon 302, select counterparty interfaces 700 and 800 may be presented as illustrated in FIGS. 7 and 8. As shown in FIG. 7, select 25 counterparty interface 700 is shown with a counterparty list view option 702 selected. When in this view, counterparty information is displayed in a region 704 of the interface. This information may include an identification number 726, a name 728, a classification 30 730, a credit status 732, a state 734, a country 736, a geographic region 738, a type 740 (e.g., parent or legal entity), a country code 742, and a parent name 744 for the counterparty. Parent counterparties may be

displayed in one color while non-parent counterparties may be displayed in another color.

The operator may scroll the list of information using scroll bar 746. The operator may 5 also sort the information in the list by identification number 726, name 728, classification 730, credit status 732, state 734, country 736, geographic region 738, type 740, country code 742, and parent name 744 by selecting headings 706, 708, 710, 712, 714, 716, 718, 10 720, 722, and 724, respectively. Repeatedly selecting the same heading may toggle the order of the sort from ascending to descending and vice versa.

The operator may also restrict the items included in the list in region 704 by entering 15 characters in one of fields 748 corresponding to identification number 726, name 728, classification 730, credit status 732, state 734, country 736, geographic region 738, type 740, country code 742, and parent name 744 and pressing retrieve button 750. For 20 example, the letters "RE" have been entered in the one of fields 748 corresponding to name 728. Accordingly, only counterparties with names beginning with the letters "RE" are included in the list. The number of counterparties that are in the list may be indicated by 25 row count field 752.

The operator may double click on any row in the list in order to activate interface 400 with that counterparty's information presented. The operator may also select a counterparty by clicking on a row so that 30 a highlight region 754 appears in the row, and then clear the counterparty's information from the list by clicking on clear button 756 or select to activate interface 400 with that counterparty's information presented by clicking on select button 758. The

operator may close interface 700 by clicking close button 760.

FIG. 8 illustrates select counterparty interface 800 with a parent tree view option 802 selected. Interface 800 may include three viewing windows 804, 806, and 808. In window 804, a parent tree view list may be presented. The list may include a list of counterparties, sub-counterparties of those counterparties, sub-sub-counterparties of the sub-counterparties, and so on. As illustrated, a plus sign 810 may be used to indicate a counterparty that has a sub-counterparty. In the case of "Republic Holdings", its sub-counterparty's identification number and name may be indicated by clicking on plus sign 810. Once this has been done, the plus sign may change to a minus sign 812 and the sub-counterparty's information may be indicated. In the case of "Ready Enterprises", its sub-counterparty is "Ready Trade". In the instance of counterparties where no sub-counterparty exists, these counterparties may be indicated without either a plus sign 810 or a minus sign 812 to indicate this status.

Once an operator has clicked on a counterparty in window 804, the sub-counterparties for that counterparty may also be listed in legal entity list window 806. At the same time, additional information for the clicked-on counterparty may be displayed in window 808. This additional information may include basic counterparty information 814, financial statement information 816, and parent information 818 (if applicable).

The operator may double click on any counterparty in the lists of windows 804 and 806 in order to activate interface 400 with that counterparty's information presented. The operator may

also select a counterparty by clicking on that counterparty in the lists of windows 804 and 806 and click on select button 820 in order to activate interface 400 with that counterparty's information 5 presented. The operator may close interface 800 by clicking close button 822.

Referring back to FIG. 3, selecting basic information icon 303 from main menu 300 may present interface 400 with the information for the counterparty 10 that was last displayed in the interface. As explained above, the operator may then view and edit the information displayed.

From main menu 300, an operator may also select to view, enter, and edit financial statements 15 for the last selected counterparty by clicking on financial information icon button 304. In response, financial statements interface 900 may be presented as illustrated in FIG. 9. As shown, interface 900 may contain a statement list 902 and a statement detail 904 20 for a selected statement in list 902. By clicking on a statement 906 so that the statement becomes highlighted, a corresponding statement detail 904 may be presented.

In order to modify the contents of a 25 financial statement 906, the operator may click modify button 910. As shown in FIG. 10, upon clicking button 910, interface 1000 may be presented. Through interface 1000, the operator may edit the values in fields 1002, view the previous statement details in 30 region 1004 if available (none shown), set the status 1006 for the financial statement (e.g., audited or unaudited), set the currency 1008 for the financial statement, and set the date 1010 for the financial statement (although, preferably the date cannot be

altered once set). After the operator is satisfied with the settings in interface 1000, the operator may save the settings by clicking on save button 1012 and then close interface 1000 by clicking on close button 5 1014.

Similarly, from interface 900, an operator can create a new financial statement by clicking new button 912 and enter the pertinent information in interface 1000 of FIG. 10. By clicking on print button 10 914, an operator can print a financial statement. By clicking on save button 908, an operator can save one or more new financial statements or modifications to one or more financial statements. Finally, by clicking on close button 916, an operator can close interface 15 900.

If the operator clicks on note icon 306 from main menu 300, a note information interface 1100 may be presented as illustrated in FIG. 11. As shown, interface 1100 includes a note type list 1102 and a notes area 1104. Note type list 1102 includes various types of notes that may be entered and displayed. Upon selecting a note type, such as note type 1110, notes area 1104 may display the corresponding notes 1108 for the selected type. Notes area 1104 may also present 20 author information 1106 for the note which may include a note identification number, an operator name, and a date and time the note was created or modified. In order to show notes for all note types in list 1102, the operator may click on show all box 1112.

30 To create a new note type for list 1102, the operator may click on create new type box 1114. Upon doing so, a dialog box may appear prompting the operator to enter a name for the new note type. Once entered, the note type will preferably appear in list

1102. In order to delete a note type, the operator may select a note type in list 1102 and click on delete type button 1116. All notes related to that type may then be deleted, the user may be prompted whether each 5 note is to be deleted or converted to another note type, or all notes may be converted to another note type.

By clicking on new button 1122, an operator may create a new note of the type selected. By clicking on delete button 1120, an operator may delete a selected note. By clicking on refresh button 1124, an operator can refresh the notes displayed in interface 1100. This may be particularly useful where more than one operator is entering notes for a given counterparty. By clicking on save button 1118, an operator can save newly created notes and modifications to notes. Finally, by clicking on close button 1126, an operator can close interface 1100.

An operator may view credit limits for one or
20 more counterparty accounts by clicking on limit list
icon 307 in main menu 300 of FIG. 3. As shown in FIG.
12, an interface 1200 may then be displayed. Interface
1200 may include a subcategory list 1202 showing
various trading markets in the trading system and a
25 limit list 1204 showing credit limits for certain
counterparty accounts. Subcategory list 1202 may be
used to select trading markets in the trading system
for which the operator would like to view trading
limits in list 1204. As shown, all subcategories may
30 be selected in list 1202. This may be accomplished by
selecting radio button 1208. To unselect all
subcategories, the operator may select radio button
1210. The operator may also restrict the
counterparties listed in list 1204 by entering a name

or a portion of a name in field 1212. To update the counterparty accounts shown in list 1204, retrieve button 1214 may be clicked. Row count 1218 may show the number of counterparty accounts listed in list
5 1204.

As shown, limit list 1204 may indicate a counterparty number for each account, a counterparty name for each account, a limit subcategory for each account, a limit type for each account, whether each
10 account has been shut off, whether each account has reached its limit, the LBE net limit, the LBE gross limit, the principal net limit, the principal gross limit, the VAR net limit, the VAR gross limit, the MTM net limit, the MTM gross limit, and any other suitable
15 information. In order to update this information, an operator may click on update mode box 1220 and enter the desired changes in list 1204.

To view the account limits for a particular counterparty, the operator may select the counterparty
20 from list 1204 and then click on account limit button 1224. In response, account limit list interface 1300 may be presented. Interface 1300 may list all account level limits for a counterparty in list 1302, the counterparty level limits for the counterparty in
25 region 1304, and accounts which do not have their own limits and which are therefore subject to the counterparty level limits for the counterparty. An operator may update the limits indicated for accounts in list 1302 by clicking on update mode box 1308 and
30 changing the values in the fields of list 1302.

A new account limit may be added to list 1302 by clicking on new button 1312, or an existing account limit may be modified by clicking on modify button 1311. After an operator clicks on button 1312 or 1311,

a limit entry interface 1400 may be presented as illustrated in FIG. 14. By selecting and modifying the various fields 1402, the operator may set the account limits and other parameters to the desired 5 settings. The operator may then save the new settings by clicking on save button 1404. The operator may close interface 1400 by clicking on close button 1406.

By clicking on button 1314, the operator may refresh the information displayed in interface 1300.

- 10 By clicking on print button 1316, the operator may print out the information displayed in interface 1300. By clicking on export button, 1318, the operator may export the information displayed in interface 1300 to a data file. By clicking on save button 1310, the 15 operator may save any changes or additions made to the limits or other parameters displayed in interface 1300. Finally, by clicking on close button 1320, the operator may close interface 1300.

Turning back to interface 1200 of FIG. 12, as 20 illustrated, interface 1200 may also include a counterparty-without-limit list 1206 showing counterparties for which no limits have been set for the selected trading markets. These counterparties may not be eligible to trade in those trading markets 25 because no limits have been set. Counterparty-without-limit list 1206 may be displayed by clicking on counterparty-without-limit box 1216.

By clicking on print button 1226, the operator may print out the information in interface 30 1200. By clicking on export button 1228, the operator may export the information in interface 1200 to a data file. By clicking on save button 1222, the operator may save any additions or modifications to the information displayed in interface 1200. Finally, by

clicking close button 1230, the operator may close interface 1200.

In order to view position versus limit information for one or more counterparties in one or 5 more trading markets of the trading system, an operator may click on position versus limit icon 308 of main menu 300 of FIG. 3. Upon selecting icon 308, position versus limit interface 1500 of FIG. 15 may be displayed. Interface 1500 may include a list 1502 of 10 trade information for each counterparty corresponding to a category and one or more subcategories selected in fields 1504 and 1506, respectively. By clicking on radio buttons 1508 and 1510 and then clicking on retrieve button 1512, the operator may respectively 15 select and unselect all of the categories and subcategories in fields 1504 and 1506 and then view the results in list 1502. The values in list 1502 may then be updated either manually or automatically by selecting one of the radio buttons in refresh settings 20 1514.

As shown in interface 1500, list 1502 may include for each counterparty a counterparty identification number, a counterparty name, a limit type, a new limit type, a limit subcategory, whether 25 the counterparty has been shut off, the percentage of the limit for initial warning, the quantity of trades executed, the LBE net position, the LBE net limit, and the percentage of the LBE net limit reached so far.

As with all position related interfaces and 30 limit related interfaces, the information presented may be presented in white when the counterparty's accounts are in good standing, in yellow when the accounts are over their warning limits, and in red when the accounts are over their credit limit?

To view position versus limit information for all of a particular counterparty's accounts in a particular subcategory, an operator may select a set of counterparty accounts in the selected subcategory in 5 list 1502 and then click on account button 1516. Upon clicking on account button 1516, position versus account detail interface 1600 may be presented as shown in FIG. 16. As illustrated, this interface may include a list of accounts 1602 for the selected counterparty 10 and subcategory 1601. This list may indicate for each account the account number, the account name, the active status, the shut off status, the warning limit percentage, the quantity of trades so far, the LBE net position, the LBE net limit, the percentage of the LBE 15 net limit, the LBE gross position, and the LBE gross limit. The operator may close interface 1600 by clicking on close button 1604.

To view position versus limit information for all transactions in a particular subcategory for a 20 particular counterparty, an operator may select a set of counterparty accounts in the selected subcategory in list 1502 and then click on transaction button 1518. Upon clicking on transaction button 1518, position versus limit interface 1700 may be presented as shown 25 in FIG. 17. As illustrated, this interface may include a list of transactions in a selected subcategory 1704 for a selected counterparty. For each transaction, this list may indicate particulars of the transaction including the quantity, the LBE, the principal, the 30 price, and whether the transaction was a buy or sell. By clicking on close button 1706, the operator may close interface 1700.

Referring back to FIG. 15, once the operator is done using interface 1500, the operator may close the interface by clicking on close button 1520.

In order to view position information for the current trading day, an operator may click on today's position icon 309 from main menu 300 of FIG. 3. As shown in FIG. 18, an interface 1800 may then be presented. Upon selecting a category and one or more subcategories in fields 1804 and 1806, the operator may view a list of position information for each counterparty participating in the trading markets corresponding to the selected category and subcategories. This information may include the counterparty identification number, the counterparty name, the subcategory, the quantity, LBE net position, the LBE gross position, the LBE long position, the LBE short position, etc. To view position information for each of a counterparty's accounts in a selected subcategory, an operator may select the desired counterparty and category in list 1802 and click on account button 1808. Upon clicking on button 1808 a list 1902 showing the current trading day's position information for the corresponding accounts may be presented in an interface 1900. Each of interfaces 1800 and 1900 may be closed by pressing close buttons 1810 and 1904.

In order to view cumulative position information, an operator may click on cumulative position icon 310 from main menu 300 of FIG. 3. As shown in FIG. 20, an interface 2000 may then be presented. Upon selecting a category and one or more subcategories in fields 2004 and 2006, the operator may view a list of cumulative position information for each counterparty participating in the trading markets

corresponding to the selected category and subcategories. This information may include the counterparty identification number, the counterparty name, the subcategory, the quantity, LBE net position,
5 the LBE gross position, the LBE long position, the LBE short position, etc. To view cumulative position information for each of a counterparty's accounts in a selected subcategory, an operator may select the desired counterparty and category in list 2002 and
10 click on account button 2008. Upon clicking on button 2008 a list 2102 showing the cumulative position information for the corresponding accounts may be presented in an interface 2100. Each of interfaces 2000 and 2100 may be closed by pressing close buttons
15 2010 and 2104.

Those skilled in the art will appreciate that the present invention can be practiced by other than the described embodiments, which are presented for purposes of illustration and not of limitation, and the
20 present invention is limited only by the claims which follow.